Course Goals: The primary goal of this course is to introduce you to techniques used in the recognition and analysis of geologic structures. We will accomplish this through a series of introductory lectures, data collection exercises and structural analysis along the Front Range and Utah using stereonets and construction of balanced cross sections. Other field-based observation and inquiry will be used to foster recognition and understanding of other regions, notably the spectacular salt-related structures of the Paradox Basin.

Prerequisites: Prerequisites for Structural Field Geology include successful completion of an undergraduate course in structural geology and an introductory field geology course such as Geology 2700. You should already be familiar with the use of stereonets and Brunton compasses. Concurrent enrollment in structure is possible, based on your past record as an undergraduate student.

Field Gear: Because much of the class will be focused on working in the field, you may wish to purchase or borrow some basic field equipment. These include a notebook or clipboard, colored pencils, mechanical pencils with hard leads (>3H), field boots, a daypack, water bottles etc. We’ll supply all necessary imagery, computer software and exercises. Most of the material for the course in online, follow the department links to courses and GEOL 4712. A memory stick is useful for copying course notes and to transfer the files for the mapping exercises.

Transportation: We will use university vehicles for traveling to and from the field sites starting the second week of class. If anyone over 25 years of age is willing to be a driver for the field trips, please let me know and we can fill out the required paperwork.

Weather: Mapping in Colorado and Utah can vary considerably in the fall months. Most important will be proper hydration and clothing while working in hot temperatures in Utah. Please wear appropriate footwear. We will also try and schedule trips such that they do not conflict with Chuck Stern’s Igneous Field course.

Grades: Grades for the course will be based on your field maps, cross sections, answers to guided exercises and the structural analysis. The first exercise will be a guided analysis at 6-mile fold. Figure two afternoons at Sixmile Fold. We will also undertake short 1-2 day exercises in the Front Range and a longer three day weekend trip to Canyonlands and Arches National Park in Utah as well as a two day weekend trip to Colorado National Monument.

Resources: I have made a significant effort to get related materials onto the course website, be sure to look through the course notes and understand them. There are also pdf’s of research papers and animations that provide helpful insight into structures we will study. The course notes for my structure course are also a helpful introduction into fault-related folding and thrust belts.

Teaching Philosophy: I prefer to teach with the Socratic Method, a technique that encourages communication between the professor and students. I try to create an environment that is interactive; I’ll pose questions in the field with the aim of guiding
everyone towards the best understanding of the structures we will observe and analyze. If you have questions, ask them immediately so that we can deal with them. The main goal is to give you a sense of how to gather useful structural data in the field that can be used for later analysis.

**Disabilities:** Please contact me if you have any physical or learning disabilities that I may need to be aware of. I am most concerned with lack of binocular vision, color blindness or physical disabilities that would create undue hardship during the mapping exercises.

**Safety:** Use common sense in the field and while driving the vans. Buckled seatbelts are mandatory. Lock the vehicles when you leave them. Be careful while you are working on slopes or cliffs above other students. Falling rocks are a hazard everyone wants to avoid. If you knock something loose, let out a yell to warn anybody below you. If you are uncomfortable in exposed areas, or are afraid of heights, please be sure to tell me, this will have absolutely no affect on your participation in the course and I can easily accommodate this issue. Alcohol is another obvious safety issue. Please do not consume alcohol in any form in the field; social drinking is ok in restaurants, but not in campsites or housing in Moab. Much effort and expense is expended to get you into regions with exciting geology, please don’t degrade the experience by getting loaded.

**Logistics:** The course will include 3-4 days of local afternoon trips to Sixmile Fold and Rabbit Mountain, a three day weekend trip to Utah and a weekend trip to Colorado National Monument. We try to schedule weekend trips such that they work best for everyone, you will need to participate in the two weekend trips to pass the course. The department typically pays for lodging in Moab and rentals for aircraft or jeeps to gain access to remote areas.